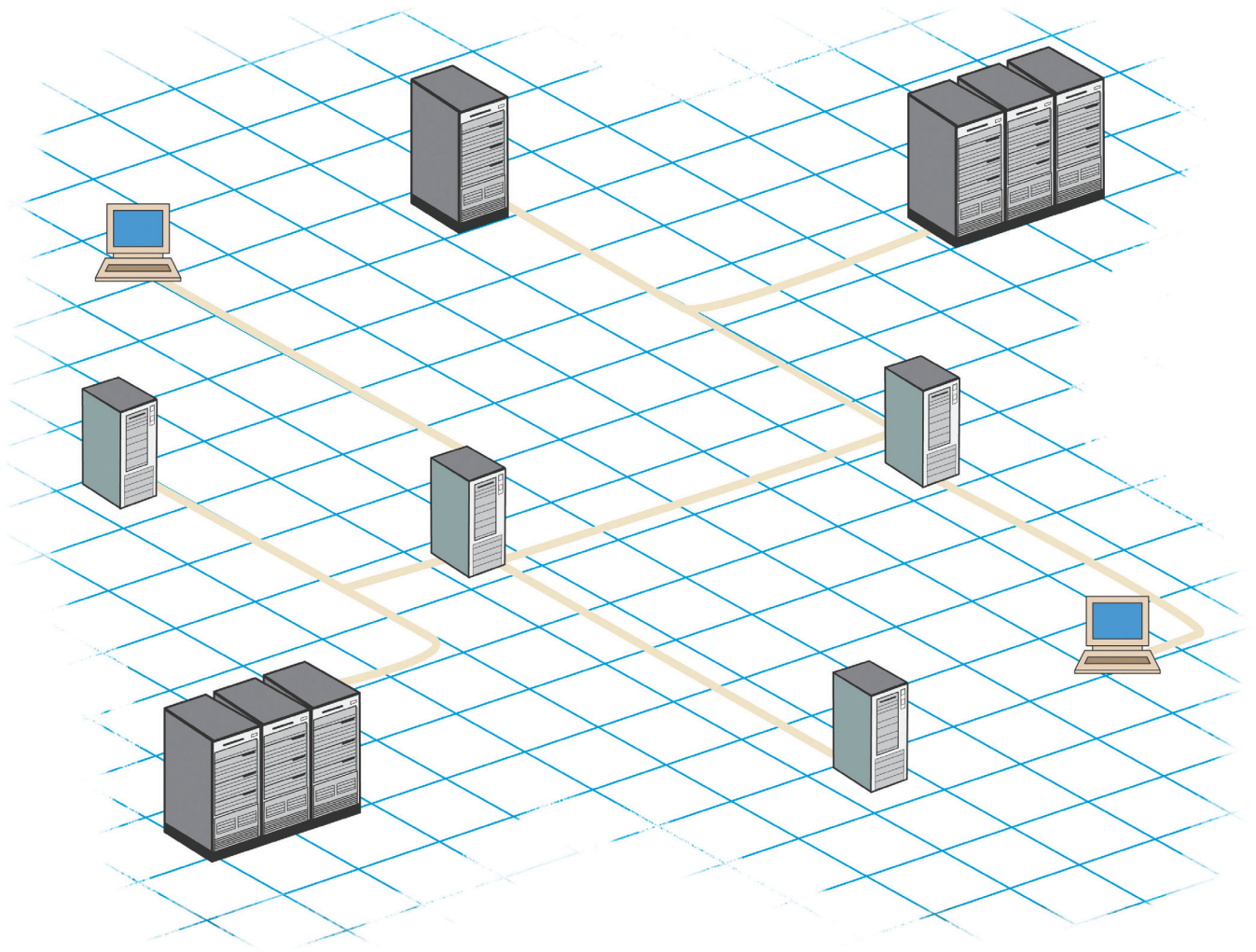


SENSAPHONE®
IMS-4000™



IMS-4010E
Dry Contact Node
User's Manual



LIT-0172

SENSAPHONE®

Every effort has been made to ensure that the information in this document is complete, accurate and up-to-date. Sensaphone assumes no responsibility for the results of errors beyond its control. Sensaphone also cannot guarantee that changes in equipment made by other manufacturers, and referred to in this manual, will not affect the applicability of the information in this manual.

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Written and produced by Sensaphone

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Aston, PA 19014

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Important Safety Instructions

Your IMS-4010E has been carefully designed to give you years of safe, reliable performance. As with all electrical equipment, however, there are a few basic precautions you should take to avoid hurting yourself or damaging the unit:

- Read the installation and operating instructions in this manual carefully. Be sure to save it for future reference.
- Read and follow all warning and instruction labels on the product itself.
- To protect the IMS-4010E from overheating, make sure all openings on the unit are not blocked. Do not place on or near a heat source, such as a radiator or heat register.
- Do not use your IMS-4010E near water, or spill liquid of any kind into it.
- Be certain that your power source matches the rating in the specifications of this manual. If you're not sure of the type of power supply to your facility, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
- Do not overload wall outlets and extension cords, as this can result in the risk of fire or electric shock.
- Never push objects of any kind into this product through ventilation holes as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
- To reduce the risk of electric shock, do not disassemble this product, but return it to Sensaphone Customer Service, or another approved repair facility, when any service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
- If anything happens that indicates that your IMS-4010E is not working properly or has been damaged, unplug it immediately and follow the procedures in the manual for having it serviced. Return the unit for servicing under the following conditions:
 1. The power cord or plug is frayed or damaged.
 2. Liquid has been spilled into the product or it has been exposed to water.
 3. The unit has been dropped, or the enclosure is damaged.
 4. The unit doesn't function normally when you're following the operating instructions.
- To reduce the risk of fire or injury to persons, read and follow these instructions:

Use only the specified type and size batteries.

Do not dispose of the batteries in a fire. The cell may explode. Check with local codes for possible special disposal instructions.

Do not open or mutilate batteries. Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.

Exercise care in handling batteries in order not to short the battery with conducting materials such as rings, bracelets, and keys. The battery or conductor may overheat and cause burns.

Remove main power before replacing the batteries.

3 YEAR LIMITED WARRANTY

PLEASE READ THIS WARRANTY CAREFULLY BEFORE USING THE PRODUCT.

THIS LIMITED WARRANTY CONTAINS SENSAPHONE'S STANDARD TERMS AND CONDITIONS. WHERE PERMITTED BY THE APPLICABLE LAW, BY KEEPING YOUR SENSAPHONE PRODUCT BEYOND THIRTY (30) DAYS AFTER THE DATE OF DELIVERY, YOU FULLY ACCEPT THE TERMS AND CONDITIONS SET FORTH IN THIS LIMITED WARRANTY.

IN ADDITION, WHERE PERMITTED BY THE APPLICABLE LAW, YOUR INSTALLATION AND/OR USE OF THE PRODUCT CONSTITUTES FULL ACCEPTANCE OF THE TERMS AND CONDITIONS OF THIS LIMITED WARRANTY (HEREINAFTER REFERRED TO AS "LIMITED WARRANTY OR WARRANTY"). IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS WARRANTY, INCLUDING ANY LIMITATIONS OF WARRANTY, INDEMNIFICATION TERMS OR LIMITATION OF LIABILITY, THEN YOU SHOULD NOT USE THE PRODUCT AND SHOULD RETURN IT TO THE SELLER FOR A REFUND OF THE PURCHASE PRICE. THE LAW MAY VARY BY JURISDICTION AS TO THE APPLICABILITY OF YOUR INSTALLATION OR USE ACTUALLY CONSTITUTING ACCEPTANCE OF THE TERMS AND CONDITIONS HEREIN AND AS TO THE APPLICABILITY OF ANY LIMITATION OF WARRANTY, INDEMNIFICATION TERMS OR LIMITATIONS OF LIABILITY.

1. WARRANTOR: In this Warranty, Warrantor shall mean "Dealer, Distributor, and/or Manufacturer."

2. ELEMENTS OF WARRANTY: This Product is warranted to be free from defects in materials and craftsmanship with only the limitations and exclusions set out below.

3. WARRANTY AND REMEDY: Three-Year Warranty — In the event that the Product does not conform to this warranty at any time during the time of three years from original purchase, warrantor will repair the defect and return it to you at no charge.

This warranty shall terminate and be of no further effect at the time the product is: (1) damaged by extraneous cause such as fire, water, lightning, etc. or not maintained as reasonable and necessary; or (2) modified; or (3) improperly installed; or (4) mis-used; or (5) repaired or serviced by someone other than Warrantors' authorized personnel or someone expressly authorized by Warrantor's to make such service or repairs; (6) used in a manner or purpose for which the product was not intended; or (7) sold by original purchaser.

LIMITED WARRANTY, LIMITATION OF DAMAGES AND DISCLAIMER OF LIABILITY FOR DAMAGES: THE WARRANTOR'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, AT THE WARRANTOR'S OPTION AS TO REPAIR OR REPLACEMENT. IN NO EVENT SHALL WARRANTORS BE LIABLE OR RESPONSIBLE FOR PAYMENT OF ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL AND/OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO ANY LABOR COSTS, PRODUCT COSTS, LOST REVENUE, BUSINESS INTERRUPTION LOSSES, LOST PROFITS, LOSS OF BUSINESS, LOSS OF DATA OR INFORMATION, OR FINANCIAL LOSS, FOR CLAIMS OF ANY NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS IN CONTRACT, BREACH OF WARRANTY OR TORT, AND WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE. IN THE EVENT THAT IT IS DETERMINED IN ANY ADJUDICATION THAT THE LIMITED WARRANTIES OF REPAIR OR REPLACEMENT ARE INAPPLICABLE, THEN THE PURCHASER'S SOLE REMEDY SHALL BE PAYMENT TO THE PURCHASER OF THE ORIGINAL COST OF THE PRODUCT, AND IN NO EVENT SHALL WARRANTORS BE LIABLE OR RESPONSIBLE FOR PAYMENT OF ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL AND/OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO ANY LOST REVENUE, BUSINESS INTERRUPTION LOSSES, LOST PROFITS, LOSS OF BUSINESS, LOSS OF DATA OR INFORMATION, OR FINANCIAL LOSS, FOR CLAIMS OF ANY NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS IN CONTRACT, BREACH OF WARRANTY OR TORT, AND WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE.

WITHOUT WAIVING ANY PROVISION IN THIS LIMITED WARRANTY, IF A CIRCUMSTANCE ARISES WHERE WARRANTORS ARE FOUND TO BE LIABLE FOR ANY LOSS OR DAMAGE ARISING OUT OF MISTAKES, NEGLIGENCE, OMISSIONS, INTERRUPTIONS, DELAYS, ERRORS OR DEFECTS IN WARRANTORS' PRODUCTS OR SERVICES, SUCH LIABILITY SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY THE CUSTOMER FOR WARRANTORS' PRODUCT AND SERVICES OR \$250.00, WHICHEVER IS GREATER. YOU HEREBY RELEASE WARRANTORS FROM ANY AND ALL OBLIGATIONS, LIABILITIES AND CLAIMS IN EXCESS OF THIS LIMITATION.

INDEMNIFICATION AND COVENANT NOT TO SUE: YOU WILL INDEMNIFY, DEFEND AND HOLD HARMLESS WARRANTORS, THEIR OWNERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, SUPPLIERS OR AFFILIATED COMPANIES, AGAINST ANY AND ALL CLAIMS, DEMANDS OR ACTIONS BASED UPON ANY LOSSES, LIABILITIES, DAMAGES OR COSTS, INCLUDING BUT NOT LIMITED TO DAMAGES THAT ARE DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL, AND INCLUDING ATTORNEYS FEES AND LEGAL COSTS, THAT MAY RESULT FROM THE INSTALLATION, OPERATION, USE OF, OR INABILITY TO USE WARRANTORS' PRODUCTS AND SERVICES, OR FROM THE FAILURE OF THE WARRANTORS' SYSTEM TO REPORT A GIVEN EVENT OR CONDITION, WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE.

YOU AGREE TO RELEASE, WAIVE, DISCHARGE AND COVENANT NOT TO SUE WARRANTORS, THEIR OWNERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, SUPPLIERS OR AFFILIATED COMPANIES, FOR ANY AND ALL

LIABILITIES POTENTIALLY ARISING FROM ANY CLAIM, DEMAND OR ACTION BASED UPON ANY LOSSES, LIABILITIES, DAMAGES OR COSTS, INCLUDING BUT NOT LIMITED TO DAMAGES THAT ARE DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL, AND INCLUDING ATTORNEYS FEES AND LEGAL COSTS, THAT MAY RESULT FROM THE INSTALLATION, OPERATION, USE OF, OR INABILITY TO USE WARRANTORS' PRODUCTS AND SERVICES, OR FROM THE FAILURE OF THE WARRANTORS' SYSTEM TO REPORT A GIVEN EVENT OR CONDITION, WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE, EXCEPT AS NECESSARY TO ENFORCE THE EXPRESS TERMS OF THIS LIMITED WARRANTY.

EXCLUSIVE WARRANTY: THE LIMITED WARRANTY OR WARRANTIES DESCRIBED HEREIN CONSTITUTE THE SOLE WARRANTY OR WARRANTIES TO THE PURCHASER. ALL IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED, INCLUDING: THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR USE AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND THE WARRANTY OF NON-INFRINGEMENT AND/OR ANY WARRANTY ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

It must be clear that the Warrantors are not insuring your premises or business or guaranteeing that there will not be damage to your person or property or business if you use this Product. You should maintain insurance coverage sufficient to provide compensation for any loss, damage, or expense that may arise in connection with the use of products or services, even if caused by Warrantors' negligence. The warrantors assume no liability for installation of the Product and/or interruptions of the service due to strikes, riots, floods, fire, and/or any cause beyond Seller's control, further subject to the limitations expressed in any License Agreement or other Agreement provided by Warrantors to purchaser.

The agreement between the Warrantors and the Purchaser, including but not limited to the terms and conditions herein shall not be governed by the Convention for the International Sale of Goods. Where applicable, the Uniform Commercial Code as adopted by the State of Delaware shall apply.

4. PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY: In the event that the Product does not conform to this warranty, the Product should be shipped or delivered freight prepaid to a Warrantor with evidence of original purchase.

5. LEGAL REMEDIES AND DISCLAIMER: Some jurisdictions may not allow, or may place limits upon, the exclusion and/or limitation of implied warranties, incidental damages and/or consequential damages for some types of goods or products sold to consumers and/or the use of indemnification terms. Thus, the exclusions, indemnification terms and limitations set out above may not apply, or may be limited in their application, to you. If the implied warranties can not be excluded, and the applicable law permits limiting the duration of implied warranties, then the implied warranties herein are to be limited to the same duration as the applicable written warranty or warranties herein. The warranty or warranties herein may give you specific legal rights that will depend upon the applicable law. You may also have other legal rights depending upon the law in your jurisdiction.

6. CHOICE OF FORUM AND CHOICE OF LAW: In the event that a dispute arises out of or in connection with this Limited Warranty, then any claims or suits of any kind concerning such disputes shall only and exclusively be brought in either the Court of Common Pleas of Delaware County, Pennsylvania or the United States District Court for the Eastern District of Pennsylvania.

Regardless of the place of contracting or performance, this Limited Warranty and all questions relating to its validity, interpretation, performance and enforcement shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the principles of conflicts of law.

Effective date 04/01/2009

PHONETICS, INC. d.b.a. SENSAPHONE

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DRY CONTACT NODE

DESCRIPTION

The IMS-4000E Dry Contact Node provides eight dry contact inputs (normally open/normally closed) and works in conjunction with the IMS Host. The device communicates with the IMS-4000E Host via its Ethernet connection. No Dry Contact Bridges are required when using this device. The unit uses four AA rechargeable NiMH batteries (included) for power backup in the event of a power failure. Both main power and battery charge are monitored and can be programmed to trip alarms as well. The unit comes in a black plastic enclosure with tabs for wall mounting. Rubber feet are also included for placement on a shelf/desktop.

Package Contents:

- (1) IMS-4010E Dry Contact Node w/Batteries installed
- (1) 12VDC Power Supply
- (1) CAT5 Ethernet Cable
- (1) DB9 Null Serial Cable
- (1) Sensaphone Screwdriver
- (4) Plastic drywall anchors
- (4) #6 Metal tapping screws
- (4) Rubber feet

DEVICE LAYOUT

The Dry Contact Node is powered by a 9VDC power supply. The device communicates to an IMS-4000E Host using its Ethernet port (10/100). The network settings must be configured using the serial port and a terminal emulation program (9600, 8, n,1). All IMS devices must be configured with a static IP address. The unit also includes a power led and a power switch. See the figure below:

- 1. 12VDC power jack
- 2. RS232 Serial port
- 3. Ethernet port
- 4. Power led
- 5. Power switch
- 6. Input terminal strip
- 7. Dip Switches (bottom of enclosure)



SERIAL PORT

The RS-232 serial port is used to configure the network settings. The port is DB9 male DTE and operates at 9600 baud, 8 data bits, no parity, and 1 stop bit. A DB9 female-female null modem cable is required to configure the network settings.

RJ-45 10/100BASE-T ETHERNET PORT

This jack is for connecting to your network so that the IMS-4010E Dry Contact Node can communicate with the IMS-4000E Host. Two LEDs are provided to indicate Link Status (green) and Receive Data status (yellow).

POWER SWITCH

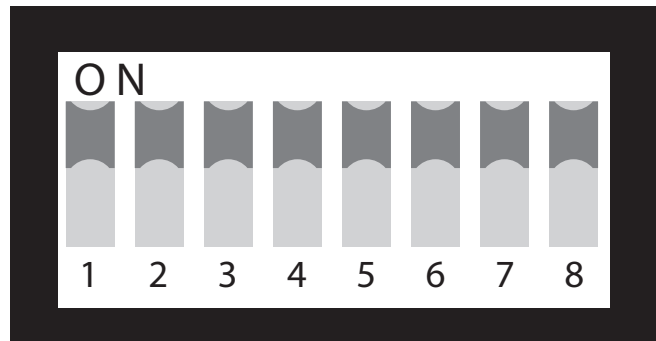
The power switch connects main power and battery power to the system. In the event that main power fails, the backup battery will automatically power the device.

SENSOR INPUTS

The eight sensor inputs connect to your normally-open or normally-closed dry contacts. You may need to loosen the screw terminals before inserting the wire. Be sure to strip at least 1/2" (1.27cm) of insulation from the wires before inserting them into the terminal strip. Do not over-tighten the screw terminals.

DIP SWITCHES

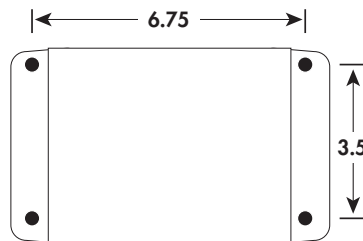
The inputs must be configured as either normally open or normally closed using the dip switches located on the bottom of the enclosure. The switches are numbered 1-8 corresponding to the 8 inputs. The OFF position is for Normally-Open (default) and the ON position is for Normally-Closed. A pen or small screwdriver can be used to move the dip switches.



Dip switches on bottom of enclosure

INSTALLATION

The device can be either wall mounted or rest on a shelf or tabletop. The enclosed screws and drywall anchors can be used for wall mounting. Drill holes as shown below and insert the drywall anchors, then attach the enclosure with the screws.



NETWORK CONFIGURATION

The IMS-4010E Dry Contact Node has a serial port on the side which is used to configure network settings. A dumb terminal or terminal emulation software is required to get online and set up the configuration. The port is male DTE, so a DB9 female-female null modem cable will be required. Terminal communication settings must be set to:

- 9600 baud, no parity, 8 data bits, 1 stop bit, no flow control

To get online with the device, connect your terminal to the serial port and press <RETURN>. A menu will appear which will guide you through the setup.

Sensaphone IMS-4000E Node Unit Version: 1.4.7

Main Menu

1. Display Network configuration
2. Configure Network settings
3. Reset to factory defaults
4. Reboot
5. Logout

Enter option->

To display the present Network Configuration settings, select **Option 1**. To program the Network settings, select **Option 2**. Note that the Dry Contact Node must have network visibility of the Host for the IMS-4000E system to function properly. For Network changes to take effect you must reboot the unit

(Option 4). A typical sample is shown below:

Network Configuration

Physical Address	00:07:F9:00:10:18
Parent Host IP address	10.1.2.47 (Connected)
Node IP Address	10.1.4.17
Subnet Mask	255.255.255.0
Default Gateway	10.1.4.1
DNS Server	10.1.2.111
Node name	48th Floor Chicago
Ethernet Mode	Auto
Allow remote configuration	Y

Press any key to return to main menu

NOTE: You can remotely reconfigure the Node network settings using the IMS-4000E ConsoleView software if the Allow Remote Configuration option is set to Y. However, the Node must initially be configured via the serial port before any remote configuration is possible.

Option 3 will reset the Node to factory default settings. All programming and network settings will be deleted.

Option 4 will reboot the system. You must reboot for new Network settings to take effect.

Option 5 will logout without rebooting.

NETWORK CONFIGURATION DEFINITIONS

Parent Host IP Address: This is the IP address of the IMS-4000E Host that this Node is associated with.

Node IP Address: This is the IP address assigned to the IMS-4000E on your network. This address is provided by you or your network administrator. It is formatted as a standard dotted decimal number.

Subnet Mask: This is the subnet mask which distinguishes the portion of the IP address that is the network ID from the portion that is the station ID.

Default Gateway: A TCP/IP network must have a gateway to communicate beyond the LAN identified by the network ID. A gateway is a computer or router that is connected to two different networks and can move TCP/IP data from one to the other. If your TCP/IP network has more than one LAN, or if you are connecting to the Internet, you will need to know the

IP address of the gateway that will transfer TCP/IP data in and out of your LAN. A single LAN that is not connected to other LANs does not require a gateway setting.

DNS Server: The DNS server is used to translate site names into actual numeric network addresses. Enter the IP address of the DNS server for your network.

Node Name: This name will appear in the IMS-4000E ConsoleView Software. In systems with many Nodes, the Name is useful for identifying one node from another.

Ethernet Mode: The unit defaults to Compatibility Mode, which means it will try connecting to the network using 100Mbps half duplex, and if it is unsuccessful it will then try 10Mbps half-duplex. Other settings are available to force the device to either 10 or 100Mbps. An Auto setting is also available which will attempt a full duplex connection, however, this may not be compatible with certain network hubs/switches.

PROGRAMMING

The IMS-4010E Dry Contact Node will appear in the IMS-4000E ConsoleView Software as a Node device below the Host. Refer to the IMS-4000E User's Manual for sensor programming instructions.

BATTERY BACKUP

The Dry Contact Node is designed to use rechargeable batteries only. The device includes (4) AA nickel metal hydride (NiMH) 2600mAh rechargeable batteries. The batteries will keep the device operating for approximately seven hours in the event of a power failure. The unit will maintain proper charging of the batteries while power is on. Do not install alkaline batteries - they will damage the device and leak. The batteries should be replaced every 4-5 years.

To replace the batteries, turn off the power switch and remove the cover. Remove the old batteries from the battery holder with a small screwdriver. Install the new NiMH rechargeable batteries following the polarity markings in the battery holder. Re-attach the top cover and turn on the power switch. Allow up to 48 hours to charge a new set of batteries.

SPECIFICATIONS

Number of Inputs	8
Input Type	AC Power, Backup Battery
Ethernet	10/100 Base-T, 10/100Mbps
Serial Port	9600Bps (N, 8, 1) for network configuration
Local Indicators	Power LED, Ethernet LEDs
Operating Temperature	32° to 122° F (0° to 50° C)
Operating Humidity	5 to 90 % RH non-condensing
Power Consumption	2.5W
Power Requirements	
IMS-4010E	120VAC 60Hz/9-12VDC 300mA (min) Power Supply
IMS-4010E-INT	90-260VAC 50/60Hz 9-12VDC 300mA (min) Multi-plug Power Supply
Battery Backup	Four AA NiMH Rechargeable Batteries, 2000mAh or higher (included)
Dimensions	7.3" x 5.5" x 1.5" (18.5 x 13.9 x 3.8 cm)
Weight	2lbs (.9kg)

RETURNING AN IMS UNIT FOR REPAIR

In the event that any of your Sensaphone IMS-4000E units do not function properly, we suggest that you do the following:

- 1) Record your observations regarding the individual unit's malfunction.
- 2) Call the Technical Service Department at 610.558.2700 prior to sending the unit to Sensaphone for repair.

If the unit must be sent to Sensaphone for Servicing, please do the following:

- 1) Unplug the power supply.
- 2) Disconnect all cables, inputs and wiring.
- 3) Carefully pack the unit to avoid damage in transit. Use the original container (if available) or a sturdy shipping box.
- 4) To avoid shipping delays, you must include the following information :
 - a) Your name, address and telephone number.
 - b) A note explaining the problem.

- 5) Ship your package to the address below:

SERVICE DEPARTMENT

SENSAPHONE®

901 Tryens Road

Aston, PA 19014

- 6) Ship prepaid and insured via UPS or US Mail to ensure a traceable shipment with recourse for damage or replacement.